Amendments to the Drawings:

The attached two (2) sheet of Replacement drawings includes changes to Figs. 1-3. These Replacement sheets, which include Figs. 1-3, replace the original sheets including Figs. 1-3.

In Fig. 1, the label "Network" has been added at block 4, the label "Application Layer" has been added at block 10, the label "Natural Language Layer" has been added at block 12, and the label "Signal Processing Layer" has been added at block 14.

In Fig. 2, the label "Application Layer" has been added at block 10, the label "State Machine" has been added at block 20, the label "Prompts" has been added to block 22, the label "Grammar" has been added to block 24, the label "Speech Generator" has been added to block 26, the label "Speech Recognition" has been added to block 28, and the label "Communication Interface" has been added to block 30.

In Fig. 3, the label "Application File" has been added at block 44, the label "Application Generator" has been added at block 42, the label "State Machine" has been added at block 20, the label "Prompts" has been added at block 22, the label "Grammar" has been added at block 24, the label "Grammatical Inference Engine" has been added at block 46, and the label "Symbolic Inference Engine" has been added at block 48.

Attachments: Replacement Sheets (two)

Annotated Sheets Showing Changes (two)

REMARKS/ARGUMENTS

This Amendment is responsive to the Office action dated August 23, 2005, setting forth a shortened three month statutory period for reply expiring on November 23, 2005. A Petition for a Three-Month extension of time and fee are filed herewith, extending the period for response up to and including February 23, 2006.

Claims 1-38 were pending in the application, with claims 1, 19, 31 and 32 being independent claims.

In brief review, the Examiner objected to the specification as lacking section headings; and objected to Figs. 1-3 as missing descriptive labels on the blocks. The Examiner also rejected claims 29, 32, and 37 as being directed to non-statutory subject matter as a "program"; and rejected claim 18 as being indefinite for lacking antecedent basis for the phrase "said creating step."

The Examiner also rejected claims 1-8 and 29-32 as anticipated under 35 U.S.C. §102(e); and rejected the remaining claims as obvious in view of various prior art references under 35 U.S.C. §103.

By this Amendment, claims 1, 6, 8, 9, 12, 18, 22, 28, 29, 31, 32, 35 and 37 have been amended and claims 4, 5 and 7 have been canceled without prejudice. New claim 39 has been added. Accordingly, claims 1-3, 6, 8-18, 19-28, 29-30, 31, 32, 33-39 are now pending.

The specification has also been amended to include section headings, and Figs. 1-3 have been amended to include descriptions in the blocks.

Reconsideration of the application and claims is respectfully requested.

RESPONSE TO OBJECTION TO THE SPECIFICATION

The Examiner objected to the specification as lacking section headings. Accordingly, the specification has been amended to include section headings, including Field of the Invention, Background, Summary, Brief Description of the Drawings, Detailed Description of Preferred Embodiments. Accordingly, it is respectfully requested that this objection be withdrawn.

The specification has also been amended in the Summary section of the application at pages 1-2 in order to conform the Summary to the claims.

RESPONSE TO OBJECTIONS TO THE DRAWINGS

The Examiner objected to Figs. 1-3 as missing descriptive labels on the blocks. Accordingly, Figs. 1-3 have been amended as indicated in the attached Replacement sheets 1/8 and 2/8, as well as in the Annotated sheets showing changes. Accordingly, it is respectfully requested that this objection be withdrawn.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. 101

The Examiner rejected claims 29, 32, and 37 as being directed toward non-statutory subject matter under 35 U.S.C. §101. In particular, the Examiner states that these claims were drawn to a "program" per se as recited in the preamble and, as such, are non-statutory subject matter. Claims 29, 32 and 37 have been amended in order to recite that the code is "stored on a computer readable media" and as such is believed to recite statutory subject matter under 35 U.S.C. §101.

Accordingly, it is respectfully requested that these rejections to claims 29, 32 and 37 be withdrawn.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. 112, 2nd PARA.

The Examiner rejected claim 18 as being indefinite for use of the phrase "said creating step." Claim 18 depends from claim 9, and claim 9 has been amended in order to establish antecedent basis for the phrase "creating."

Accordingly, claim 18 now has proper antecedent basis, and it is respectfully requested that this rejection be withdrawn.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. 102(E)

The Examiner rejected claims 1-8 and 29-32 as anticipated under 35 U.S.C. §102(e) in view of U.S. Patent Publication No. 2001/0013001 by Brown et al. (the Brown publication).

Independent claims 1, 31 and 32 have been amended to recite, in part, "inputting an application file including application data representative of an application for said system, said application data including operations and input and return parameters, with parameter types, for said application." The Brown publication is not understood to teach or suggest this limitation.

The Brown publication describes a platform that can implement an IVR application by using either HTML or PML pages as input files. The pages are parsed by a parser 112 to analyze the pages to identify a structure, such as section headings, tables, frames and forms. A

voice processor 114 performs analysis of the text and web page information of a page to generate a verbal description of the page of a speech synthesizer 116 so as to transform the text and web page information into speech for an audio interface device 108, such as a telephone. A user of the audio device 108 can then provide speech commands to browse the pages.

The parsed pages are analyzed by a grammar generator 120 for section titles, hyperlinks and other indicators that are converted to speech. The grammar generator 120 then constructs a subgrammar for each indicator by generating all possible ways of speaking subsets of the indicator. All other voice commands are then combined with the subgrammar and a completed grammar is compiled into an optimized finite-state network. The network is loaded into a speech recognizer 122 and used to constrain the possible sequence of words that could be recognized.

The Brown publication describes in Section 3 (paragraphs [0067] to [0073]) how general web-based IVR applications can be implemented using the platform. A <GRAMMAR> tag can be included in the pages to expand the grammar. For example, this enables different phrases to be used to address the same URL on the page. Being a web page, the pages may include script to be invoked when the link is selected, and therefore the grammar can be expanded so as to represent the action on the host processor when the link is selected by the spoken command, e.g., "Get messages." In all instances, the text of the page is used by the speech synthesizer 116 to generate speech, and the links are invoked by responding with speech corresponding to the links. It is believed that an IVR based on the teachings of the Brown publication would only able to provide a verbal description of the page and receive a speech response to select a link of the page.

Hence, the Brown publication is not understood to teach or suggest "inputting an application file including application data representative of an application for said system, said application data including operations and input and return parameters, with parameter types, for said application" as recited in claims 1, 31 and 32. For at least this reason, these claims are patentable over the Brown publication.

Moreover, the Brown publication is not understood to teach or suggest "generating a dialogue state machine on the basis of said application data, said state machine including slots for each operation and each input parameter, said slots defining data on which said interactive system executes the operations" as recited in amended independent claims 1, 31 and 32.

Nor is the Brown publication understood to teach or suggest "generating prompts on the basis of said application data including a prompt listing said operations" as recited in amended claims 1, 31 and 32.

The Brown publication is also not understood to teach or suggest "generating grammar on the basis of said application data, said grammar including slots for each operation and input parameters to return data of said parameter types to said state machine" as recited in claims 1, 31 and 32.

For at least these reasons, independent claims 1, 31 and 32 are believed to be allowable over the Brown publication. Since dependant claims 2-8, 29-30 depend from and further limit independent claim 1, these dependant claims are also believed to be allowable over the Brown publication.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. 103

The Examiner rejected claims 9-14, 17-24, 27, 28 and 33-36 as obvious under 35 U.S.C. §103 in view of the Brown publication and U.S. Patent No. 5,937,385 to Zadrozny et al. (the Zadrozny patent). The Examiner also rejected claims 15, 16, and 25-26 as obvious under §103 in view of the Brown publication, the Zadrozny patent, and the alleged admitted prior art of the applicants.

As to claims 9-18, 29-30, 33-35 and 39 which depend from amended claim 1, these claims are allowable over the Brown publication for the reasons stated above. The addition of the Zadrozny patent in the obviousness rejection is not believed to teach or suggest the limitations recited in amended claim 1.

The Zadrozny patent discloses a grammar reviser system 610 including a sentence generator 620 for using the rules of an initial grammar to generate a list of acceptable sentences 510. The sentences are then used by a counter-example generator 630 to generate inappropriate or irrelevant sentences that can be accepted by the initial grammar, but which should not be accepted. The counter-examples produced are used so as to remove those sentences of the counter-examples from the accepted sentences so as to produce a list of sentences which should only be accepted. This pruned list of sentences creates new unique non-terminals for each unique word in the sentences, and then the non-terminals are merged in the grammar so that it can only accept the relevant sentences. The counter-examples used are

generated on the basis of sentences from the sentence generator, and are not generated by the grammar itself. The counter-examples do no expand the grammar.

Hence, the combination of the Zardrozny patent and the Brown publication are not understood to teach or suggest the elements in combination as recited in amended claim 1. Because claims 9-18, 29-30, 33-35 and 39 depend from and further limit independent claim 1, these dependant claims are also allowable over the Zardrozny patent and the Brown publication.

Moreover, the Zadrozny patent does not disclose or suggest "executing grammatical inference to enhance grammar on the basis of observations recorded by the system", as recited in claim 8.

Nor does the Zadrozny patent disclose or suggest "processing rules of the grammar and creating additional rules representative of repeated phrases", as recited in claim 9. Zadrozny discloses using a counter-example generator to process sentences to generate counter-examples. There is no discussion of creating additional rules representative of repeated phrases.

As to claims 19, 20-28 and 36-38, independent claim 19 recites in part "a grammatical inference method for developing grammar, including processing rules of the grammar, creating additional rules representative of repeated phrases." As mentioned above, the Zadrozny patent is not understood to disclose or suggest "processing rules of the grammar" and "creating additional rules representative of repeated phrases", as recited in claim 19. Zadrozny discloses using a counter-example generator to process sentences to generate counter-examples. There is no discussion of creating additional rules representative of repeated phrases. For at least these reasons, claim 19 is believed to be allowable over the Zadrozny patent and the Brown publication.

Because claims 20-28 and 36-38 depend from and further limit independent claim 19, these dependant claims are also allowable over the Zardrozny patent and the Brown publication.

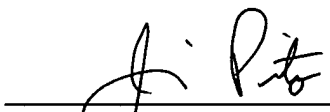
CONCLUSION

In view of the above, claims 1-3, 6, 8-18, 19-28, 29-30, 31, 32, 33-39 remain in the application and are believed to be allowable.

No further fees are believed to be due with this Amendment beyond the three-month extension of time fee filed herewith; however, if any additional fees are required, please consider this a petition therefore and please charge such fees to Deposit Account number 04-1415.

Dated: February 23, 2006.

Respectfully submitted,



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ANNOTATED SHEET SHOWING CHANGES

LABELS ADDED TO BLOCKS

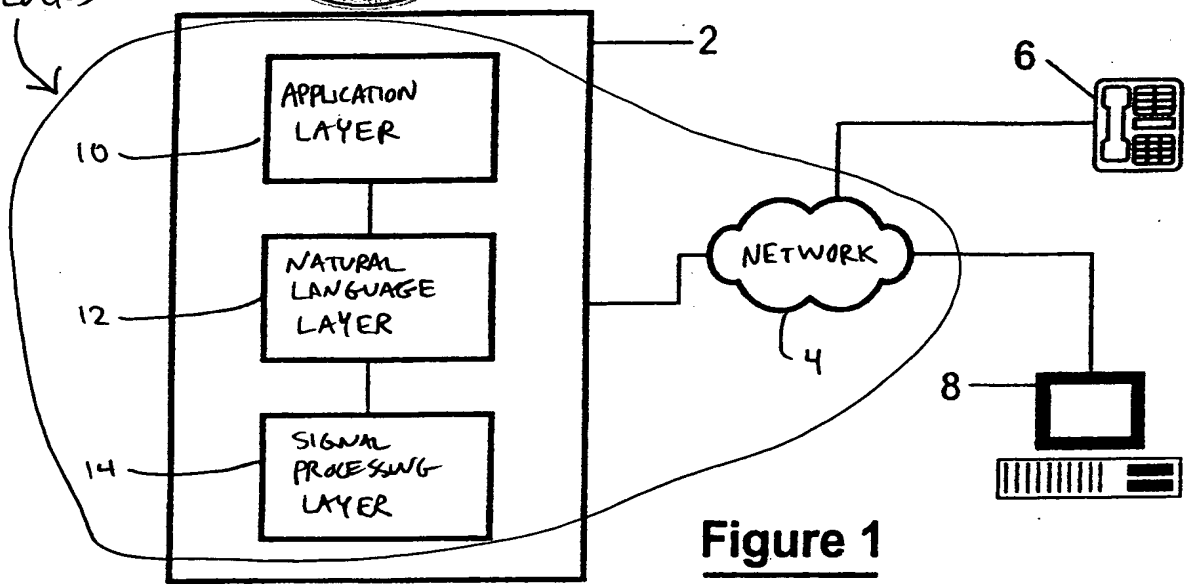

Figure 1

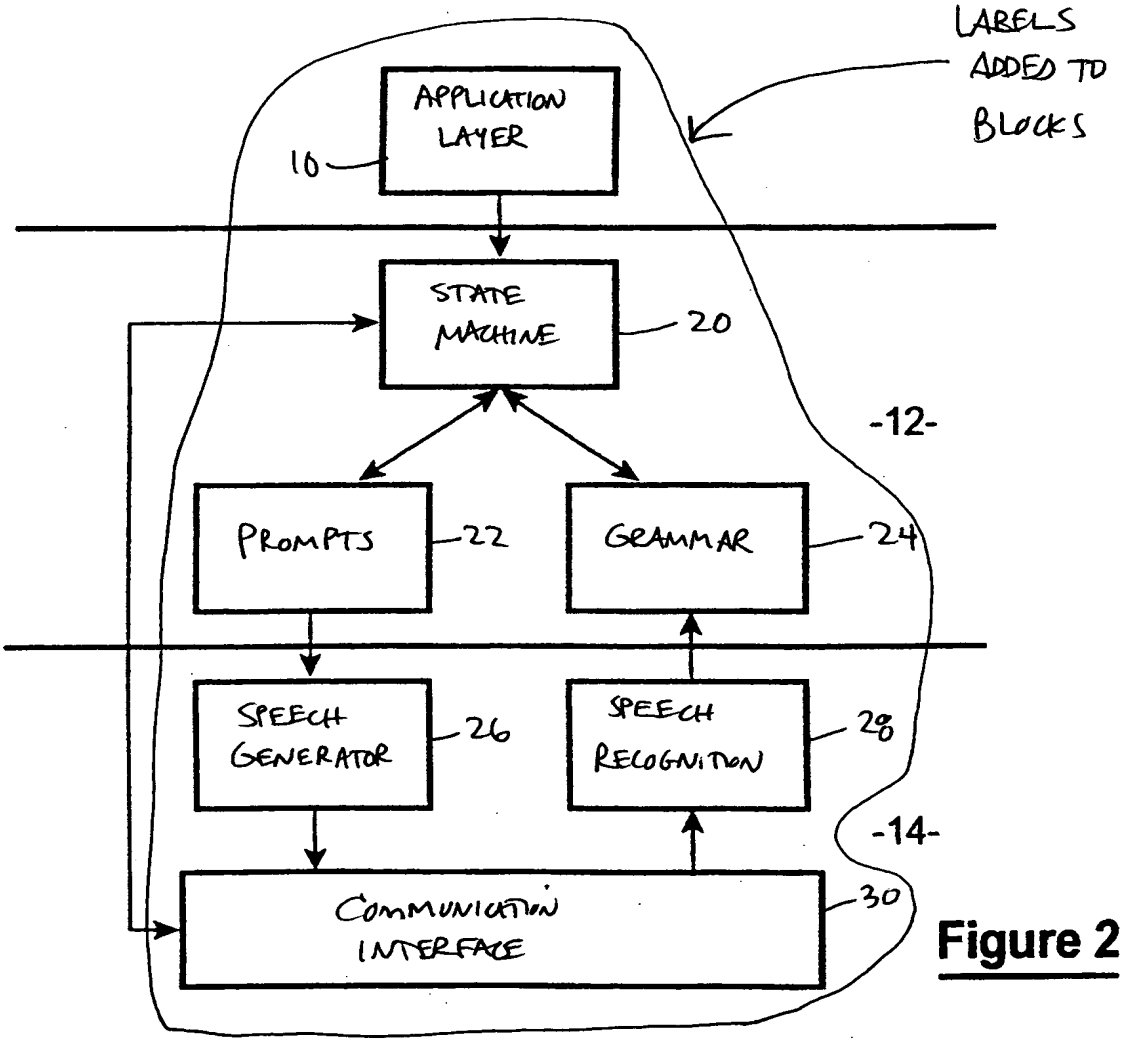

Figure 2

ANNOTATED SHEET SHOWING CHANGES

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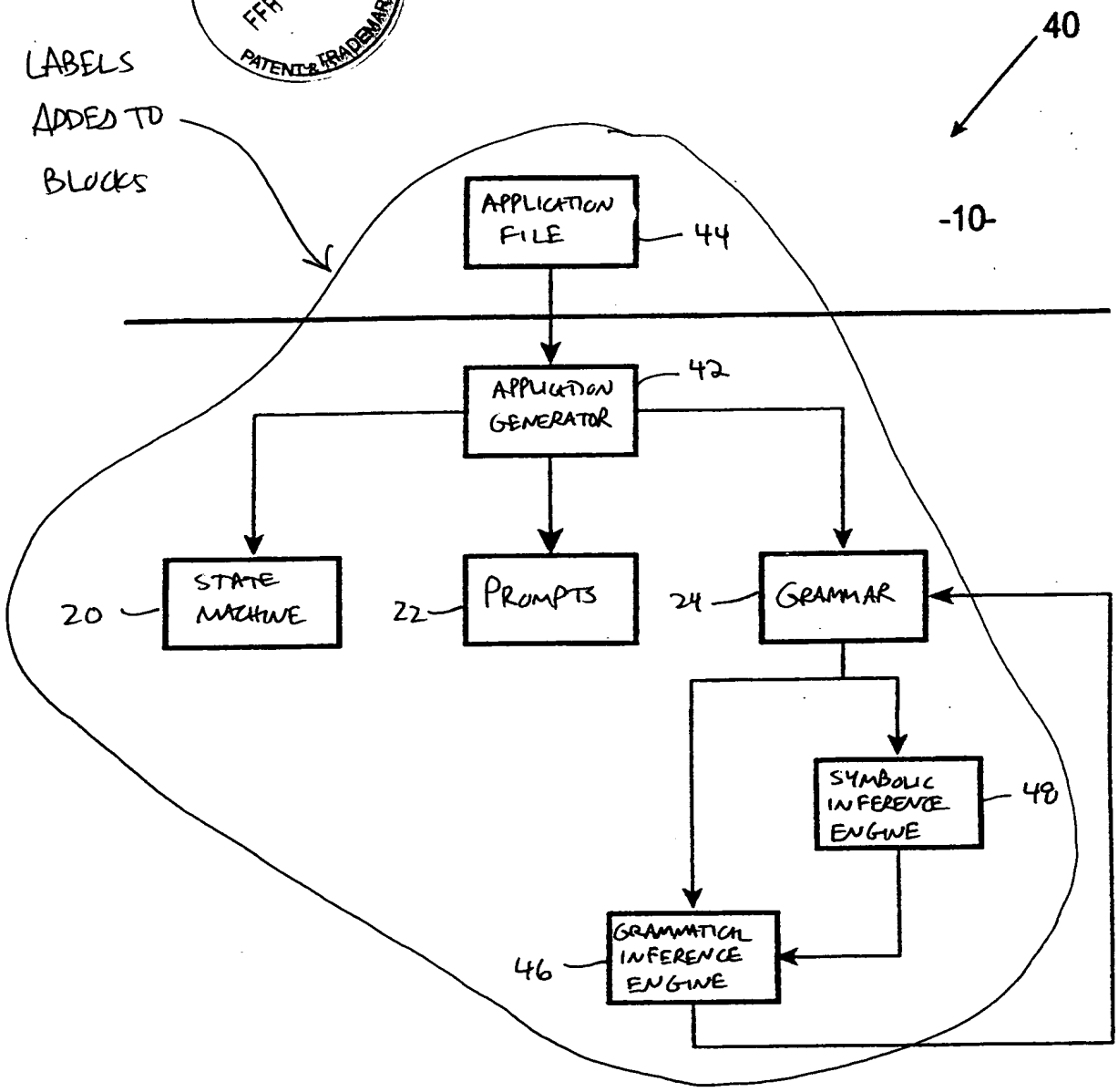

Figure 3